

DRILL HOLES

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BORDER REV: DATE: June 11, 2004

BY: \$USERNAME\$

PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing Traffic Control Signal with from a permissive left turn for MD 213 Northbound to a exclusive/permissive left turn for MD 213 and MD 545 (Elkton Blvd) in Cecil County. MD 213 is assumed to run in a north-south direction.

II. INTERSECTION OPERATION

1. The intersection is to operate in a NEMA Five-phase semi-traffic-actuated mode, with MD 213 approaches continuing to run concurrently. Md 545 (Elkton Blvd), and Elkton Blvd shall run concurrently. Pre-emption 1 shall remain for MD 213 Southbound. Pre-emption 2 shall remain for MD 213 Northbound. Exclusive/Permissive left turn phase shall be provided for 213 Northbound.

CONTACT PERSONS FOR DISTRICT 2 ARE AS FOLLOWS:

MR. RICHARD LINDSAY
DISTRICT ENGINEER
PHONE: (410) 810-3210

MR. ROBERT KIEL
ASSISTANT DISTRICT
ENGINEER - TRAFFIC
PHONE: (410) 810-3240

MR. TERRY O. WRIGHT
ASSISTANT DISTRICT
ENGINEER - MAINTENANCE
PHONE: (410) 810-3250

MR. BARRY CLOTHIER
ASSISTANT DISTRICT
ENGINEER - UTILITIES
410-810-3275

CONTACT FOR OFFICE OF TRAFFIC AND SAFETY:

MR. RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF -
TRAFFIC OPERATIONS DIVISION
(410) 787-7630

MR. ED RODENHIZER
TEAM LEADER - SIGNAL OPERATIONS
(410) 787-7650

MR. EUGENE BAILEY
TEAM LEADER - SIGN OPERATIONS
(410) 787-7676

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR:

ITEM NO.	QUANTITY	DESCRIPTION
1001	1 EACH	MAINTENANCE OF TRAFFIC
8008	2 EACH	FURNISH AND INSTALL CONTROL CABLE, 200' VIDEO DETECTION CAMERA TO CONTROLLER
8009	1 EACH	FURNISH AND INSTALL CONTROL CABLE, 300' VIDEO DETECTION CAMERA TO CONTROLLER
8021	1 EACH	REMOVE AND DISPOSE OF MATERIAL AND EQUIPMENT PER ASSIGNMENT
8031	13 LF	FURNISH AND INSTALL WOOD SIGN SUPPORT 4"x4"
8032	34 LF	FURNISH AND INSTALL WOOD SIGN SUPPORT 4"x6"
8056	28.6 SF	INSTALL GROUND MOUNTED SIGN
8057	86 SF	INSTALL OVERHEAD MOUNTED SIGN
8058	3 EACH	FURNISH AND INSTALL VIDEO DETECTION CAMERA
8087	240 LF	FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR (NO.14 AWG)
8102-A	2 EACH	FURNISH AND INSTALL 12" SIGNAL HEAD LED W/MOUNTING HARDWARE (RED AND GREEN ONLY)
8103-A	2 EACH	FURNISH AND INSTALL 12" SIGNAL HEAD LED W/MOUNTING HARDWARE (YELLOW ONLY)
NEG	20 EACH	FURNISH AND INSTALL 8" SIGNAL HEAD LED W/MOUNTING HARDWARE (RED AND GREEN ONLY)
NEG	10 EACH	FURNISH AND INSTALL 8" SIGNAL HEAD LED W/MOUNTING HARDWARE (YELLOW ONLY)

EQUIPMENT LIST "C"

C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7941 CONNELLY DRIVE, HANOVER, MARYLAND 21076.

QUANTITY	DESCRIPTION
NONE	

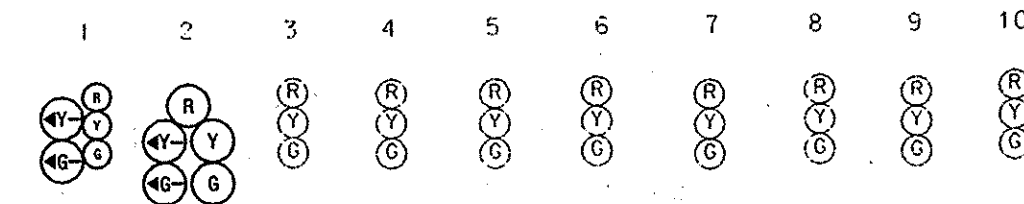
EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY STATE HIGHWAY ADMINISTRATION

ITEM NO.	QUANTITY	DESCRIPTION
9086	1 EA	VIDEO DETECTION INTERFACE EQUIPMENT
9071	114.6 SF	SHEET ALUMINUM SIGNS
SHEET ALUMINUM FOR MAST ARM MOUNTING		
1 EA		SHIELD ASSEMBLY (31"x51") NORTH, MD 213, RIGHT ARROW
1 EA		SHIELD ASSEMBLY (31"x51") NORTH, MD 545, LEFT ARROW
1 EA		SHIELD ASSEMBLY (48"x75") NORTH, MD 213, LEFT ARROW
1 EA		SHIELD ASSEMBLY (48"x75") NORTH, MD 545, LEFT ARROW
1 EA		SHIELD ASSEMBLY (48"x75") NORTH, MD 545, RIGHT ARROW
SHEET ALUMINUM FOR GROUND MOUNTING		
1 EA		M3-3, "SOUTH", (24"x12")
		M1-5, "MD 213", (30"x24")
		M6-1, "LEFT ARROW" (21"x15")
1 EA		M3-3, "SOUTH", (24"x12")
		M1-5, "MD 213", ((30"x24")
		M6-1, "LEFT ARROW", (21"x15")
1 EA		M2-1, "JCT", (21"x15")
		M1-5, "MD213", (30"x24")
1 EA		om-3L, "BRIDGE END MARKER", (12"x36")

MD 213 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION

PHASE CHART

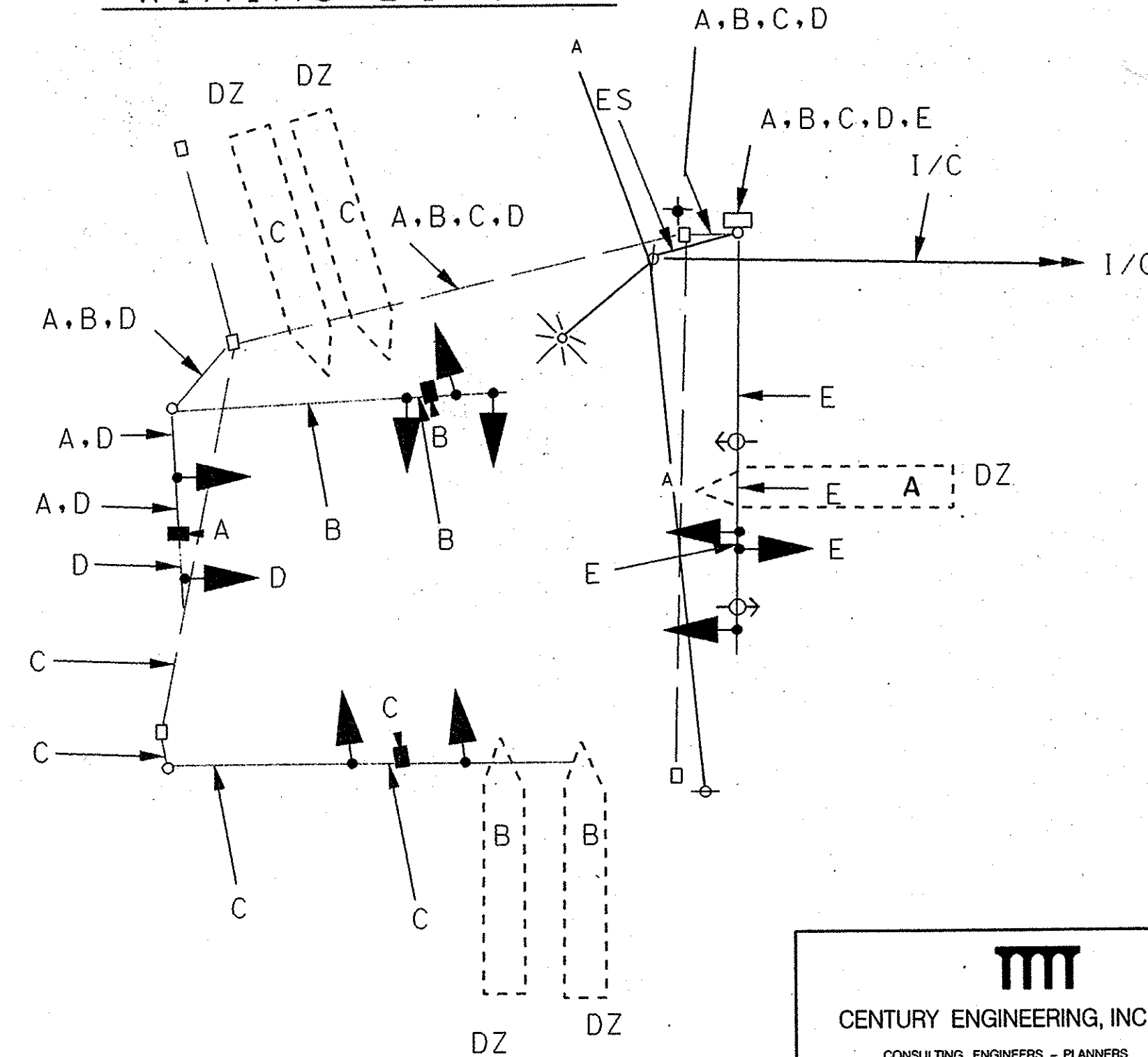


PHASE 2 + 5	1	2	3	4	5	6	7	8	9	10
2 + 5 CHANGE	G	G	G	R	R	R	R	R	R	R
PHASE 2 + 6	G	G	G	G	R	R	R	R	R	R
2 + 6 CHANGE	Y	Y	Y	Y	R	R	R	R	R	R
PHASE 4 + 8	R	R	R	R	R	G	G	G	G	G
4 + 8 CHANGE	R	R	R	R	R	Y	Y	Y	Y	Y
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R

PRE-EMPTION PHASE 2	1	2	3	4	5	6	7	8	9	10
PHASE 2 CHANGE	G	G	G	R	R	R	R	R	R	R

PRE-EMPTION PHASE 1	1	2	3	4	5	6	7	8	9	10
PHASE 1 CHANGE	R	R	R	Y	Y	R	R	R	R	R

WIRING DIAGRAM



WIRING KEY

- A-B - CAMERA W/ 200' LEAD-IN TO CONTROLLER
- C - CAMERA W/ 300' LEAD-IN TO CONTROLLER
- D-E - 7-CONDUCTOR ELECTRICAL CABLE NO.14 AWG
- DZ - CAMERA DETECTOR ZONE
- I/C - EXISTING COMMUNICATION CABLE
- ES - EXISTING OVERHEAD SERVICE FEED
- + - 3/4" X 10' GROUND ROD

CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS - PLANNERS
32 WEST ROAD
TOWSON, MARYLAND 21204

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
MD 213 (BRIDGE ST) AT MD 545 (ELKTON BLVD)
ELKTON, MARYLAND

SCALE N/A DATE 07/01/2005 CONTRACT NO. AT3555185

DESIGNED BY D. L. A. COUNTY CECIL
DRAWN BY H. W. LOGMILE 07021319.32
CHECKED BY T. M. H. T.I.M.S. NO. H103
F.A.P. NO. TOD NO.

TS NO. DRAWING - OF SHEET NO. 4 OF 4

PLOTTED: \$DATETIME\$ FILE: \$FILES\$